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=> s de19632922/pn

L1 1 DE19632922/PN

=> d l1 iall

L1 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1998:126444 CAPLUS

DOCUMENT NUMBER: 128:127751

ENTRY DATE: Entered STN: 02 Mar 1998

TITLE: Process for the production of hydroxypivalic acid by the hydrogen peroxide oxidation of hydroxypivalaldehyde

INVENTOR(S): Neumann, Karl Heinz; Joentgen, Winfried; Heitkamp, Dieter; Fiege, Helmut

PATENT ASSIGNEE(S): Bayer A.-G., Germany

SOURCE: Ger. Offen., 4 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

INT. PATENT CLASSIF.:

MAIN: C07C059-01

SECONDARY: C07C051-285; C07C051-235

CLASSIFICATION: 23-16 (Aliphatic Compounds)

Section cross-reference(s): 42, 45

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

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| NEWS | 6 | SEP 11 | CA/CAplus enhanced with more pre-1907 records |
| NEWS | 7 | SEP 21 | CA/CAplus fields enhanced with simultaneous left and right truncation |
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| NEWS EXPRESS | | | NOVEMBER 10 CURRENT WINDOWS VERSION IS V8.01c, CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP), AND CURRENT DISCOVER FILE IS DATED 25 SEPTEMBER 2006. |
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| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|------------------|--------------|
| DE 19632922 | A1 | 19980219 | DE 1996-19632922 | 19960816 <-- |
| EP 825170 | A2 | 19980225 | EP 1997-113444 | 19970804 |
| EP 825170 | A3 | 19980415 | | |
| EP 825170 | B1 | 20010110 | | |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI | | | | |
| ES 2154863 | T3 | 20010416 | ES 1997-113444 | 19970804 |
| US 5801276 | A | 19980901 | US 1997-910442 | 19970805 |
| JP 10067703 | A2 | 19980310 | JP 1997-228936 | 19970812 |
| PRIORITY APPLN. INFO.: | | | DE 1996-19632922 | A 19960816 |

PATENT CLASSIFICATION CODES:

| PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES |
|-------------|-------|---|
| DE 19632922 | ICM | C07C059-01 |
| | ICS | C07C051-285; C07C051-235 |
| | IPCI | C07C0059-01 [ICM,6]; C07C0059-00 [ICM,6,C*]; C07C0051-285 [ICS,6]; C07C0051-235 [ICS,6]; C07C0051-16 [ICS,6,C*] |
| | IPCR | C07C0051-16 [I,C*]; C07C0051-285 [I,A]; C07C0059-00 [I,C*]; C07C0059-01 [I,A] |
| EP 825170 | IPCI | C07C0059-01 [ICM,6]; C07C0059-00 [ICM,6,C*]; C07C0051-285 [ICS,6]; C07C0051-16 [ICS,6,C*] |
| | IPCR | C07C0051-16 [I,C*]; C07C0051-285 [I,A]; C07C0059-00 [I,C*]; C07C0059-01 [I,A] |
| | ECLA | C07C051/285+59/01 |
| ES 2154863 | IPCI | C07C0059-01 [ICM,7]; C07C0059-00 [ICM,7,C*]; C07C0051-285 [ICS,7]; C07C0051-16 [ICS,7,C*] |
| | IPCR | C07C0051-16 [I,C*]; C07C0051-285 [I,A]; C07C0059-00 [I,C*]; C07C0059-01 [I,A] |
| US 5801276 | IPCI | C07C0051-235 [ICM,6]; C07C0051-16 [ICM,6,C*] |
| | IPCR | C07C0051-16 [I,C*]; C07C0051-285 [I,A]; C07C0059-00 [I,C*]; C07C0059-01 [I,A] |
| | NCL | 562/531.000 |
| | ECLA | C07C051/285+59/01 |
| JP 10067703 | IPCI | C07C0059-01 [ICM,6]; C07C0059-00 [ICM,6,C*]; C07C0051-285 [ICS,6]; C07C0051-16 [ICS,6,C*] |

OTHER SOURCE(S): CASREACT 128:127751

ABSTRACT:

Hydroxypivalic acid, useful as an industrial intermediate in the preparation of water-based lacquers (no data), is prepared in high yield and selectivity by the oxidation of hydroxypivalaldehyde at 60-80° using an aqueous H2O2 solution in such a manner that the concentration of H2O2 does not exceed 4% of the reaction mixture and that the H2O2 solution addition is terminated when the hydroxypivalaldehyde concentration becomes less than 1%.

SUPPL. TERM: hydroxypivalic acid manuf; hydroxypivalaldehyde oxidn manuf
hydroxypivalic acid; hydrogen peroxide oxidn
hydroxypivalaldehyde manuf hydroxypivalic

INDEX TERM: Oxidation
(liquid-phase; of hydroxypivalaldehyde with hydrogen peroxide oxidation in the manufacture of hydroxypivalic acid)

INDEX TERM: 597-31-9P, Hydroxypivalaldehyde
ROLE: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(process for the production of hydroxypivalic acid by the hydrogen peroxide oxidation of hydroxypivalaldehyde)

INDEX TERM: 4835-90-9P, Hydroxypivalic acid
ROLE: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)

(process for the production of hydroxypivalic acid by the hydrogen peroxide oxidation of hydroxypivalaldehyde)

INDEX TERM: 50-00-0, Formalin, reactions 78-84-2, Isobutyraldehyde
7722-84-1, Hydrogen peroxide, reactions
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(process for the production of hydroxypivalic acid by the hydrogen peroxide oxidation of hydroxypivalaldehyde)

INDEX TERM: 7732-18-5, Water, uses
ROLE: NUU (Other use, unclassified); USES (Uses)
(solvent; process for the production of hydroxypivalic acid by the hydrogen peroxide oxidation of hydroxypivalaldehyde)

=> file reg

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|--|------------------|---------------|
| COST IN U.S. DOLLARS | SINCE FILE ENTRY | TOTAL SESSION |
| FULL ESTIMATED COST | 6.86 | 7.07 |
| DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS) | SINCE FILE ENTRY | TOTAL SESSION |
| CA SUBSCRIBER PRICE | -0.75 | -0.75 |

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=> e Hydroxypivalic acid/cn

| | | |
|-----|-------|--|
| E1 | 1 | HYDROXYPIVALDEHYDE ISOBUTYRATE/CN |
| E2 | 1 | HYDROXYPIVALDEHYDE OXIME/CN |
| E3 | 1 --> | HYDROXYPIVALIC ACID/CN |
| E4 | 1 | HYDROXYPIVALIC ACID METHYL ESTER/CN |
| E5 | 1 | HYDROXYPIVALIC ACID NEOPENTYL GLYCOL ESTER/CN |
| E6 | 1 | HYDROXYPIVALIC ACID NEOPENTYL GLYCOL ESTER-ISOPHORONE DIISOCYANATE-TRIMETHYLOLPROPANE COPOLYMER/CN |
| E7 | 1 | HYDROXYPIVALIC ACID NEOPENTYL GLYCOL ESTER-MDI COPOLYMER/CN |
| E8 | 1 | HYDROXYPIVALIC ACID-1-ISOCYANATO-4(OR 3)-(ISOCYANATOMETHYL)-1-METHYLCYCLOHEXANE COPOLYMER/CN |
| E9 | 1 | HYDROXYPIVALIC ACID-IPDI-PHTHALIC ANHYDRIDE-TRIMETHYLOLPROPANE COPOLYMER/CN |
| E10 | 1 | HYDROXYPIVALIC ACID-ISOPHTHALIC ACID-NEOPENTYL GLYCOL-NEOPENTYL GLYCOL HYDROXYPIVALATE-PRIMID QM 1260-TEREPHTHALIC ACID COPOLYMER/CN |
| E11 | 1 | HYDROXYPIVALIC ACID-ISOPHTHALIC ACID-NEOPENTYL GLYCOL-PRIMID |

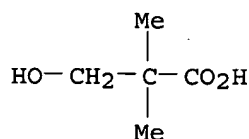
QM 1260-TEREPHTHALIC ACID COPOLYMER/CN
 E12 1 HYDROXYPIVALIC ACID-ISOPHTHALIC ACID-NEOPENTYL GLYCOL-PRIMID
 XL 552-TEREPHTHALIC ACID COPOLYMER/CN

=> s e3

L2 1 "HYDROXYPIVALIC ACID"/CN

=> d 12

L2 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2006 ACS on STN
 RN 4835-90-9 REGISTRY
 ED Entered STN: 16 Nov 1984
 CN Propanoic acid, 3-hydroxy-2,2-dimethyl- (9CI) (CA INDEX NAME)
 OTHER CA INDEX NAMES:
 CN Hydracrylic acid, 2,2-dimethyl- (6CI, 7CI, 8CI)
 OTHER NAMES:
 CN α,α -Dimethyl- β -hydroxypropionic acid
 CN 2,2-Dimethyl-3-hydroxypropanoic acid
 CN 2,2-Dimethyl-3-hydroxypropionic acid
 CN 2,2-Dimethylhydracrylic acid
 CN 3-Hydroxy-2,2-dimethylpropanoic acid
 CN 3-Hydroxy-2,2-dimethylpropionic acid
 CN Hydroxypivalic acid
 CN NSC 115936
 CN Oxypivalic acid
 MF C5 H10 O3
 CI COM
 LC STN Files: ANABSTR, BEILSTEIN*, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS,
 CHEMLIST, CIN, CSCHM, IFICDB, IFIPAT, IFIUDB, SPECINFO, SYNTHLINE,
 TOXCENTER, USPAT2, USPATFULL
 (*File contains numerically searchable property data)
 Other Sources: EINECS**, NDSL**, TSCA**
 (**Enter CHEMLIST File for up-to-date regulatory information)



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 64 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 206 REFERENCES IN FILE CAPLUS (1907 TO DATE)
 7 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=> e hydroxypivalaldehyde/cn

E1 1 HYDROXYPIPERIDONE/CN
 E2 1 HYDROXYPIRACETAM/CN
 E3 1 --> HYDROXYPIVALALDEHYDE/CN
 E4 1 HYDROXYPIVALALDEHYDE DIMER/CN
 E5 1 HYDROXYPIVALDEHYDE/CN
 E6 1 HYDROXYPIVALDEHYDE CYANOHYDRIN/CN
 E7 1 HYDROXYPIVALDEHYDE ISOBUTYRATE/CN
 E8 1 HYDROXYPIVALDEHYDE OXIME/CN
 E9 1 HYDROXYPIVALIC ACID/CN
 E10 1 HYDROXYPIVALIC ACID METHYL ESTER/CN
 E11 1 HYDROXYPIVALIC ACID NEOPENTYL GLYCOL ESTER/CN
 E12 1 HYDROXYPIVALIC ACID NEOPENTYL GLYCOL ESTER-ISOPHORONE DIISOC

YANATE-TRIMETHYLOLPROPANE COPOLYMER/CN

=> s e3

L3 1 HYDROXYPIVALALDEHYDE/CN

=> d l3

L3 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2006 ACS on STN

RN 597-31-9 REGISTRY

ED Entered STN: 16 Nov 1984

CN Propanal, 3-hydroxy-2,2-dimethyl- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Hydracrylaldehyde, 2,2-dimethyl- (6CI, 7CI, 8CI)

OTHER NAMES:

CN α,α -Dimethyl- β -hydroxypropionaldehyde

CN 2,2-Dimethyl-3-hydroxypropanal

CN 2,2-Dimethyl-3-hydroxypropionaldehyde

CN 2-(Hydroxymethyl)-2-methylpropanal

CN 2-(Hydroxymethyl)isobutyraldehyde

CN 3-Hydroxy-2,2-dimethylpropanal

CN 3-Hydroxy-2,2-dimethylpropionaldehyde

CN 3-Hydroxypivalaldehyde

CN Hydroxypivalaldehyde

CN Hydroxypivaldehyde

CN Pentaaldol

CN Pentaldol

MF C5 H10 O2

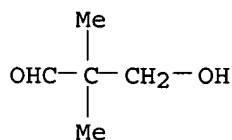
CI COM

LC STN Files: ANABSTR, BEILSTEIN*, BIOSIS, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX, CHEMLIST, CSChem, HSDB*, IFICDB, IFIPAT, IFIUDb, PS, RTECS*, SPECINFO, SYNTHLINE, TOXCENTER, USPAT2, USPATFULL

(*File contains numerically searchable property data)

Other Sources: EINECS**, NDSL**, TSCA**

(**Enter CHEMLIST File for up-to-date regulatory information)



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10 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

326 REFERENCES IN FILE CAPLUS (1907 TO DATE)

15